



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,102	12/01/2003	Kazuhisa Hosaka	246026US6	1397

7590 05/02/2007  
OBLN, SPIVAK, MCCLELLAND  
MAIER & NEUSTADT, PC  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
----------

MOTSINGER, SEAN T

ART UNIT	PAPER NUMBER
----------	--------------

2624

MAIL DATE	DELIVERY MODE
-----------	---------------

05/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/724,102

Applicant(s)

HOSAKA ET AL.

Examiner

Sean Motsinger

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/1/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/30/2004, 1/22/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

***Rejections Under 35 U.S.C. 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Re Claims 13, and 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A computer program per se is not statutory because it is an abstract idea. To comply with 35 U.S.C. 101 the computer program must be stored on a computer readable medium as in claims 15 and 16.

***Rejections Under 35 U.S.C. 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Re claim 1, Claim 1 states "to-be-encoded object predicting means for predicting a to-be-encoded bit plane on the basis of the estimated number of codes; a bit modeling means for making bit modeling of each of the to be-encoded bit planes"

Note in the first limitation there is only one "to-be-encoded bit plane" yet in the second there seems to be multiple. For the purposes of examination examiner interprets claim 1 to read "to-be-encoded object predicting means for predicting at least one to-be-encoded bit plane on the basis of the estimated number of codes."

4. Re claims 2-9 these claims are rejected because they do not clarify the issues in claim 1.
5. Re claims 11, 13, and 15 these claims are rejected because they have the same problems as claim 1 and are interpreted in a similar manner.
6. Re claim 10, Claim 10 states "a number-of-codes estimating means for estimating the number of codes in each encoding pass"; "a to-be-encoded object predicting means for predicting a to be-encoded encoding pass on the basis of the estimated number of codes in each encoding pass;" and "an encoding pass generating means for generating an encoding pass for each of the bit planes." This is unclear because the use of "an encoding pass for each of the bit planes" makes it unclear if these are the same encoding passes as the ones described above. Furthermore according to the specification examiner understands that encoding passes are generated only for the "to be encoded," encoding passes also making this claim unclear. Also the "for each of the bit-planes" is confusing where it is stated and this idea should be moved to the first mention of the "encoding pass." Also note

in second limitation stated above only "one to be encoded encoding pass" is determined yet the claim refers to "to be encoded encoding pass" in the plural sense later. For the purposes of examination examiner interprets the relevant sections of claim 10 to read "a number-of-codes estimating means for estimating the number of codes in each encoding pass wherein each encoding pass is to encode a particular bit plane"; "a to-be-encoded object predicting means for predicting at least one to be encoded encoding pass on the basis of the estimated number of codes in each encoding pass;" and "an encoding pass generating means for generating the to be encoded encoding passes."

7. Re claims 12, 14, and 16 these claims contain similar language to claim 10 and therefore contain the same 112 2<sup>nd</sup> paragraph problems. Also a similar interpretation made for these claims.

***Allowable subject matter***

8. Claims 1-16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
9. Re claim 1 Kuniba US 6,876,770 discloses An image encoder comprising: a filtering means for filtering an input image to generate subbands (wavelet transformation lines 30-37 column 1); a bit plane generating means for dividing each of the subbands into code blocks of predetermined sizes (column 1 lines 47-50) to

generate a bit plane ranging from the most significant bit (MSB) (upper bit column 1 line 54) to least significant bit (LSB) (note the fact that later it is encoded from upper bit down implies that the LSB are also there) in each of the code blocks; a bit modeling (column 4 line 46) means for making bit modeling of each of the to be-encoded bit planes; an encoding pass (column 1 lines 54-60) generating means for generating an encoding pass for each of the to be-encoded bit planes (column 1 lines 58-60) ; an algebraic coding (arithmetical encoding column 2 line 11) means for making algebraic coding within the encoding pass generated by the encoding pass generating means; and a code stream generating (bit stream formation column 2 line 12) means for generating a stream of codes using the algebraic code generated by the algebraic coding means. Kuniba does not disclose a number-of-codes estimating means for estimating the number of codes in each bit plane; a to-be-encoded object predicting means for predicting a to-be-encoded bit plane on the basis of the estimated number of codes.

10. Lei et al US 6,356,665 discloses "Bit-planes are encoded until a pre-specified number of coded bits or a desired image quality is reached. Using FIG. 2 as an example, the bit-plane approach encodes bits in a column by column manner by first encoding the bits in the b.sub.1 bit-plane, then the bits in the b.sub.2 bit-plane, and so on". However this does not make obvious "estimating the number of codes in each bit plane" or "predicting a to-be-encoded bit plane."
11. Nickerson et al US 5,926,222 discloses "an estimate of the number of bits required to encode a block of transform coefficients at a specified quantization (Q)

level is generated without performing the actual encoding.” However determining quantization levels is similar but is not the same as selecting a bit plane to encode, therefore the reference does not make it obvious to estimate the number of codes for the bit plane or predict the to be encoded bit planes based on said estimate.

12. Togashi et al US 2004/0252893 discloses a number-of-codes estimating means for estimating the number of codes in each bit plane; a to-be-encoded object predicting means for predicting a to-be-encoded bit plane on the basis of the estimated number of codes. See paragraph 68. However this reference is not prior art as its filing date is after applicants.
13. Claims 2-9 contain allowable subject matter because they depend from claim 1
14. Re claim 10 Claim 10 has all of the elements described in Kuniba (see discussion of claim 1) above it does not disclose “a number-of-codes estimating means for estimating the number of codes in each encoding pass wherein each encoding pass is to encode a particular bit plane”; “a to-be-encoded object predicting means for predicting at least one to be-encoded encoding pass on the basis of the estimated number of codes in each encoding pass”
15. Again Lei discloses “Bit-planes are encoded until a pre-specified number of coded bits or a desired image quality is reached. Using FIG. 2 as an example, the bit-plane approach encodes bits in a column by column manner by first encoding the bits in the b.sub.1 bit-plane, then the bits in the b.sub.2 bit-plane, and so on”.

However this does not make obvious "a number-of-codes estimating means for estimating the number of codes in each encoding pass wherein each encoding pass is to encode a particular bit plane"; "a to-be-encoded object predicting means for predicting at least one to be-encoded encoding pass on the basis of the estimated number of codes in each encoding pass"

16. Claims 11-16 contain allowable subject matter For the same reasons as stated for claims 1 and 10

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Motsinger whose telephone number is 571-270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Möttinger  
4/26/2007

  
JINGGE WU  
SUPERVISORY PATENT EXAMINER